Amendments to the Claims:

Please add claims 79 to 81.

Please amend claims 56 and 58 as follows:

This listing of claims will replace all prior versions and listing of claims in the application.

Listing of Claims:

1 to 55 (cancelled).

56. (amended) An isolated nucleic acid molecule selected from the group consisting of:

(a) an isolated nucleic acid molecule comprising the nucleotide sequence of SEQ ID NO: 1 or the complete complement thereof;

(b) an isolated nucleic acid molecule having at least 85% nucleotide sequence identity with the entire contiguous open reading frame of SEQ ID NO: 1 and encoding a protein capable of phosphorylating ribosomal S6 protein ~~with p70β S6 kinase activity~~; and

(c) an isolated nucleic acid molecule which encodes a protein comprising the amino acid sequence of SEQ ID NO: 2.

57. (cancelled)

58. (previously presented) An isolated nucleic acid molecule which encodes a fragment of a protein comprising the amino acid sequence of SEQ ID NO: 2 wherein the fragment is capable of phosphorylating ribosomal S6 protein ~~retains p70β S6 kinase activity~~.

59. (previously presented) The isolated nucleic acid molecule of claim 56, wherein the nucleic acid molecule comprises nucleotides 77-1561 of SEQ ID NO: 1.

60. (previously presented) The isolated nucleic acid molecule of claim 56, wherein the nucleic acid molecule consists of nucleotides 77-1561 of SEQ ID NO: 1.

61. (previously presented) The isolated nucleic acid molecule of claim 56, wherein the nucleic acid molecule consists of nucleotides 77-1564 of SEQ ID NO: 1.

62. (previously presented) The isolated nucleic acid molecule of claim 56, wherein the nucleic acid molecule comprises nucleotides 116-1561 of SEQ ID NO: 1.

63. (previously presented) The isolated nucleic acid molecule of claim 56, wherein the nucleic acid molecule consists of nucleotides 116-1561 of SEQ ID NO: 1.

64. (previously presented) The isolated nucleic acid molecule of claim 56, wherein the nucleic acid molecule consists of nucleotides 116-1564 of SEQ ID NO: 1.

65. (previously presented) The isolated nucleic acid molecule of claim 56, wherein the nucleic acid molecule contains a nucleotide substitution at a position corresponding to nucleotides 1277, 1278 or 1279 of SEQ ID NO: 1.

66. (previously presented) The isolated nucleic acid molecule of claim 56, wherein the nucleic acid molecule encodes a protein comprising an aspartic acid substitution for threonine at amino acid 401 of SEQ ID NO: 2.

67. (cancelled)

68. (previously presented) The isolated nucleic acid molecule of any one of claims 56 and 58-66, wherein the nucleic acid molecule is operably linked to one or more expression control elements.

69. (previously presented) A vector comprising the isolated nucleic acid molecule of any one of claims 56 and 58-66.

70. (previously presented) A host cell transformed to contain the nucleic acid molecule of any one of claims 56 and 58-66.

71. (previously presented) A host cell comprising the vector of claim 69.

72. (previously presented) The host cell of claim 70, wherein said host cell is selected from the group consisting of prokaryotic hosts and eukaryotic hosts.

73. (previously presented) A method for producing a protein comprising the step of culturing a host cell of claim 70 under conditions in which the protein encoded by the nucleic acid molecule is expressed.

74. (withdrawn) A method of determining whether a cell expresses aberrant cellular levels of a nucleic acid molecule of claim 56 comprising:

(a) determining the level of expression of said nucleic acid molecule in a test cell; and

(b) comparing said level of expression to a control, wherein change in expression compared to the control indicates aberrant expression.

75. (withdrawn) The method of claim 74, wherein the level of expression is determined by measuring the level of mRNA.

76. (withdrawn) The method of claim 74, wherein the cell is human.

77. (withdrawn) The method of claim 74, wherein said cell is from a tissue selected from the group consisting of heart, brain, placenta, lung, liver, skeletal muscle, kidney, pancreas, spleen, thymus, prostate, testis, ovary, small intestine, colon or leukocytes.

78. (withdrawn) The method of claim 74, wherein the change in expression is an increase in expression.

79. (new) The isolated nucleic acid molecule of claim 56, wherein the nucleic acid molecule in (b) has at least 95% nucleotide sequence identity with the entire contiguous open reading frame of SEQ ID NO: 1.

80. (new) The isolated nucleic acid molecule of claim 56, wherein the nucleic acid molecule in (b) has at least 98% nucleotide sequence identity with the entire contiguous open reading frame of SEQ ID NO: 1.

81. (new) The isolated nucleic acid molecule of claim 56, wherein the nucleic acid molecule in (b) has at least 99% nucleotide sequence identity with the entire contiguous open reading frame of SEQ ID NO: 1.

Summary of the Office Action

1. The finality of the previous Office Action was withdrawn by the Examiner due to new grounds of rejection not previously introduced.

2. Claims 56 and 68 to 73 were rejected under 35 U.S.C. 102(e) as allegedly being anticipated by Bandman *et al.* (U.S. Patent 6,156,523).

3. Claims 58 to 66 were indicated to be allowable over the prior art but were objected to since they depend upon rejected claim 56.

Response to the Office Action

The Office Action dated September 22, 2003 has been carefully reviewed and the following amendments and comments are made in response. In view of the above amendments and following remarks, Applicants respectfully request reconsideration and reexamination of this application and the timely allowance of the pending claims. Applicants respectfully submit that no new prohibited matter has been introduced by the claim amendments. While written description support for the claims can be found throughout the specification, specific support for claims 79 to 81 is set forth page 14, lines 1 to 3.

The Office Action indicated that claims 58 to 66 appear to be allowable over the prior art of record but were objected to because they depend upon a rejected claim. Applicants bring to the Examiner's attention that claim 58 is written in independent form and therefore cannot be objected to for being dependent upon a rejected claim. Nonetheless, Applicants have amended claim 58 to correspond to the kinase language of amended claim 56. Thus, claim 58 now is directed to a nucleic acid encoding a protein capable of phosphorylating a ribosomal S6 protein.

Rejection under 35 U.S.C. 102(e)

Claims 56 and 68 to 73 were rejected under 35 U.S.C. 102(e) as allegedly being anticipated by Bandman *et al.* (U.S. Patent 6,156,523). Applicants have amended claim 56 to provide that the nucleic acid having at least 85% nucleotide sequence identity with the entire contiguous open reading frame of SEQ ID NO: 1 must encode a protein capable of phosphorylating ribosomal S6 protein. The amended claim now designates phosphorylation of ribosomal S6 protein as a $p70\beta^{S6k}$ protein activity, phosphorylation of this protein (S6) being equivalent to $p70\beta^{S6k}$ protein activity. Applicants bring to the attention of the Examiner that the cited reference makes no mention of the ribosomal S6 protein, nor of the protein substrates of the disclosed kinase protein. In the absence of a disclosure or reference to the

ribosomal S6 protein, Applicants submit that the cited reference does not anticipate the claims as amended and respectfully request that the rejection be withdrawn.

Conclusion

Applicants respectfully request reconsideration of the subject application in view of the amended claims and the above remarks. It is respectfully submitted that this application is now in condition for allowance. Should the Examiner believe it to be useful, an interview with the Examiner is respectfully requested in order to discuss the foregoing claims.

Except for issue fees payable under 37 C.F.R. 1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application, including fees due under 37 C.F.R. 1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account 50-0310. This paragraph is intended to be a **constructive petition for extension of time** in accordance with 37 C.F.R. 1.136(a)(3).

Respectfully submitted
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Dated: **December 22, 2003**
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